

## **Final Report**

Title: Sponsorship of the International Conference on Silicon Carbide and Related Materials 1999

Award Number: F49620-99-1-0271

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### **Abstract:**

The funds from this contract were for partial support of the International Conference on Silicon Carbide and Related Materials 1999 (ICSCRM'99) which was held October 10-17, 1999 in Research Triangle Park, North Carolina. The principal objective of this interdisciplinary conference was to bring together the world's leading experts in the growth and characterization of wide bandgap materials, as well as experts involved in device related research and device fabrication and characterization. The conference promoted and produced cross-fertilization of knowledge and ideas among researchers from the many disciplines represented regarding the full development and deployment of wide bandgap materials and devices. The microelectronic and optoelectronic devices now being fabricated and envisioned from these materials, principally SiC and III-Nitrides, potentially possess the ultimate in properties in terms of power, frequency and temperature of operation and light emission. They are of considerable interest for the future establishment of the all-electronic Air Force.

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**Objective:** The funds from this contract were for partial support of the International Conference on Silicon Carbide and Related Materials 1999 (ICSCRM'99) which was held October 10-17, 1999 in RTP, NC. The principal objective of this interdisciplinary conference was to bring together the world's leading experts in the growth and characterization of wide bandgap materials, as well as experts involved in device related research and device fabrication and characterization. The conference promoted and produced cross-fertilization of knowledge and ideas among researchers from the many disciplines represented regarding the full development and deployment of wide bandgap materials and devices. The microelectronic and optoelectronic devices now being fabricated and envisioned from these materials, principally SiC and III-Nitrides, potentially possess the ultimate in properties in terms of power, frequency and temperature of operation and light emission. They are of considerable interest for the future establishment of the all-electronic Air Force.

**Approach:** The funds were used to subsidize the cost of the registration fee for U.S. students attending the conference and to support invited speakers. This allowed a larger number of students to attend the conference which fuels future interest and development in this area as well as ensuring that the top people in the field could present their results.

**Work Completed:** The conference was held October 10-15, 1999. All work is completed except the final printing and distribution of the proceeding which should be completed by July 2000.

**Results:** This conference was considered extremely successful, with many participants saying it was the best technical conference they had ever attended. It was the largest conference in the series to date with 652 participants representing 25 countries (vs. 480 at the last conference in 1997 in Sweden). There were 448 papers presented either orally or as a poster.

**Impact/Applications:** We believe that this conference had and will continue to have a significant impact on the wide bandgap community by exposing participants to the wide variety of work going on in the field, the sharing of information and contacts made for future collaboration. The published proceedings will also be an important reference for those who could not attend the conference and for new entries to the field as well as those who attended the conference.

**Transitions:** There are no real transitions for this contract but plans for both the next ICSCRM conference which will be held in 2001 in Japan and the next European conference (ECSR) which will be held in Germany in September 2000 were made during this conference.

**Publications (Names of books, chapters, or significant papers as a result of award):** The conference proceedings were published by Trans Tech Publications Ltd. The title is "Silicon Carbide and Related Materials-1999", Calvin H. Carter, Jr., Robert P. Devaty and Gregory S. Rohrer, eds. The two volume proceedings contain 401 papers.

**Patents:** None

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## 13. ABSTRACT (Maximum 200 words)

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